MARINE REVIEW.

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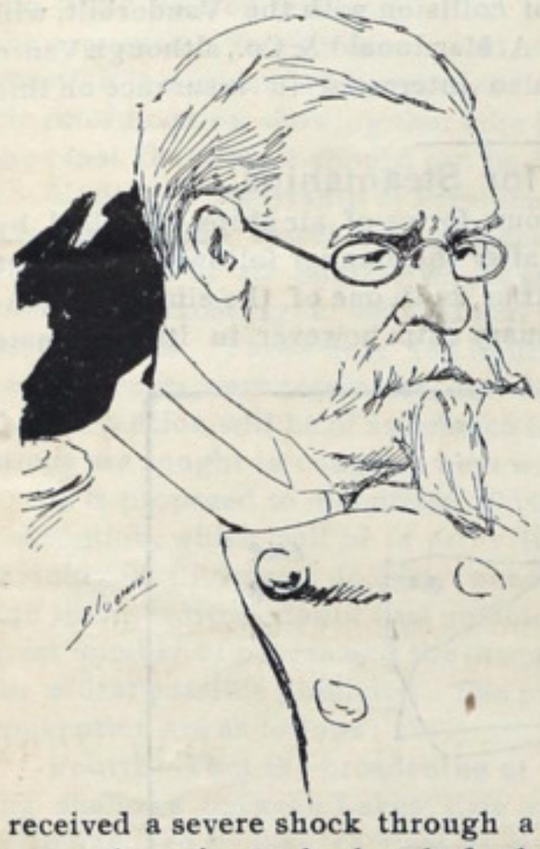
Gen. O. M. Poe Dead.

Telegraph dispatches from Detroit announced Wednesday the sudden death of Gen O. M. Poe, colonel of engineers, U. S. army, of the northwest district, considered as one of the most important appointments in the engineer corps. He would have been retired next March, but his services were so highly appreciated by vessel owners that the Lake Carriers' Association had petitioned congress for his retainment until the completion of the new lock and the 20-foot channel, both monuments of his engineering skill and capacity. His death will bring to mind the spontaneous movement among lake interests recently to provide a suitable monument in connection with the completion of the new locks. It was stopped at his very urgent request, as he stated in his terse way that the lock itself would be sufficient monument to his memory. Ten days ago he visited the lock at Sault Ste. Marie to inspect the break in the mitre sill and received a severe shock through a fall, which induced erysipelas. At a rough estimate he has had charge of different government works on which upward of $40,000,000 have been expended. He served in the late war with such honor as to win the laurels of brevet brigadier general. He was always courteous and had the respect of even those who differed with him.



Colonel of Engineers and Brevet Brigadier General Orlando M. Poe was born in Ohio March 7, 1832, and was appointed to the United States military academy September, 1852, and was graduated July, 1856. He was at once assigned to the engineer's department of the army. He was made a colonel of a Michigan regiment of volunteers at the outbreak of the war, and was made a brigadier general Nov. 20, 1862. At the close of the war he was again transferred to the engineer department and finally attained the rank of colonel of engineers July 23, 1888. His services as a volunteer were marked by many meritorious acts and he was promoted for gallant services at Knoxville, Atlanta and Savannah. He served as colonel A. D. C. to the general of the army from Jan. 1, 1873, to Feb. 8, 1884, when he was detailed to supervise the improvements on the lakes on the Detroit District.

The executive committee of the Lake Carriers' Association met in the office of H. D. Goulder, Thursday at 11 o'clork, and passed a series of resolutions on the death of Gen. Poe, mentioning his services in connection with channel and harbor improvements on the lakes and the consideration always given to suggestions or requests of the association.

Lake Freight Matters.

Capt. James Davidson of West Bay City was in Cleveland during the week and admitted that he has taken 100,000 tons of ore to be moved from Duluth next season at $1 a ton. Vessels controlled by M. M. Drake of Buffalo have also been placed for a block of ore aggregating about 50,000 tons, and it is thought the steamers Harper and Nimick and the steel schooner Tyrone, controlled in Fairport, have also been placed, but there is less certainty regarding these latter vessels. Capt. Davidson professes to be of the opinion that a very large quantity of ore has been covered for next season at $1 a ton from the head of the lakes, and that both vessel owners and shippers are keeping the matter very quiet, but this is hardly true, as it is certain that there has as yet been no general movement toward sales of ore.

Storms of the past week have been the means of causing ore shippers, who were resting with hopes of getting tonnage from the head of the lakes at $1.25 cents, to come into the market and bid against Duluth grain shippers. As a result the market is again advancing and unsettled, and at this writing the rate on wheat from Duluth to Buffalo is 4½ cents and some boats are being held for 5 cents. Several boats were placed Thursday morning at $1.50 and there was an under current towards a demand for $1.60.

Engineers' Wages Raised.

At a meeting of the executive and finance committee of the Lake Carriers' Association in Cleveland Tuesday, it was decided that 3 cents could be paid for trimming ore cargoes at all ports. Escanaba trimmers have demanded 4 cents but at the other ports, except Ashland, they have been trimming at 2 and 3 cents and at Two Harbors there has been very little trimming done. Practically the action naming three cents as the price was almost equivalent to no action. It was found that little difficulty was experienced with boats carrying untrimmed cargces in good weather, but now that the fall gales are coming on it is doubtful whether captains will consider it safe to bring down cargoes that have not been trimmed.

While there has been some talk about requests from engineers to have their wages removed from the card it was not mentioned in the meeting and the raise in wages of chief engineers of $10 and $15 and $5 for second engineers came after discussion in connection with the wages of the mates, neither of which had been raised since the general reduction was made. This increase amounts to pretty nearly the wages paid before the cut made in March, 1894. In the issue of Sept. 19 the REVIEW commenting on engineers' wages said the following: "It would seem, therefore, that all interests would have been better served if the recent advance in wages had been made to cover the entire schedule." The card issued under date of Oct. 1 is as follows:

ON STEAMERS.	PER MONTH.
1st Class. Boats having water bottoms and triple expansion engines.	
Chief engineer	$110 00
Second engineer	75 00
2d Class. Metal steamers not included in Class 1, and wooden vessels with triple expansion and with compound engines, except the smaller boats which may be put in Class 3:	
Chief engineer	$85 00 to 100 00
Second engineer	65 00
3d Class. Smaller boats with high pressure or low pressure engines, or with compound engines, covering all boats not included in the two former classes:	
Right hand column only on large steamers having special facilities for handling cargo.	
Chief engineer	$70 00 to 85 00
Second engineer	55 00
First mate	60 00 to 80 00
Second mates (when carried)	40 00 to 55 00
Cooks	35 00 to 50 00
Helpers to cooks	10 00 to 15 00
Firemen	30 00 to 37 50
Wheelsmen	30 00 to 37 50
Lookouts	30 00 to 37 50
Deck hands	15 00 to 18 00
Oilers (when carried)	30 00 to 37 50
Firemen—fitting out and laying up, $1.00 per day and board themselves.	

It is reported from Amherstburg that one of Fitzgerald's vessels bound up Sunday struck opposite the new coal shutes on the Amhurstburg docks and the Gould bound down struck in the same place later. The obstruction is a little nearer Bois Blanc island than the center of the river and boats will escape it by passing a little nearer the docks than mid-channel. The Gould also reported striking opposite Duff and Gatfield's office. Capt. McKay has ordered a black stake and light put on the obstruction, and has also located it on the blue print chart of the river and reported it to the hydrographic office.

The S. S. Curry concluded a cargo performance Tuesday that has so far as known never been equaled on the lakes before. On Tuesday Sept. 24 she delivered a cargo of 2,992 gross tons at South Chicago from Lake Superior. On Thursday Sept. 26 she delivered at the same place 3,883 gross tons from Escanaba and on Tuesday Oct. 1, one week from the time of delivering her first cargo she again unloaded 3,875 gross tons from Escanaba. This makes total of 10,750 gross tons, delivered within one week, traveling a distance of 1,320 miles.

Test of Steamer Joliet.

There is presented herewith a test of the steel steamer Joliet made on Lake Superior below Outer island, Sept. 2, 1895. The Joliet is an iron ore carrier, trading almost exclusively of late between Marquette and Cleveland. She was built and engined by the Cleveland Ship Building Co. The test was made by Mr. F. B. Smith chief engineer of the vessel. She is owned by the Lake Superior Iron Co , Cleveland, and is of 1,546 net tons register. Her keel length is 266 feet, beam 38 feet and hold 24 feet and she carries 1,950 gross tons on 14 feet draft, or 2,400 gross tons on 16 feet draft. Engine cylinders are 17, 29 and 47 inches diameter with 36 inches stroke of piston. She has two Scotch boilers, which are allowed 160 pounds steam pressure.

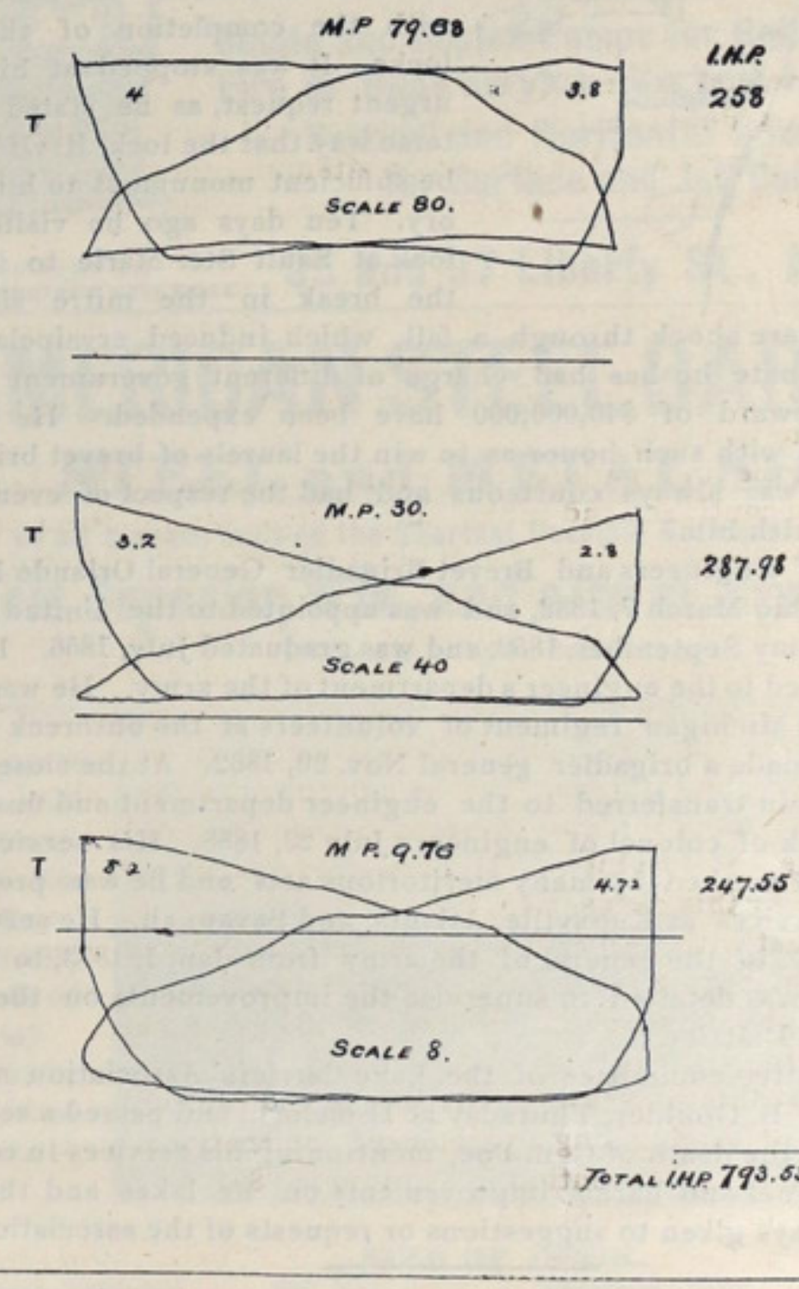
Referring to the test, Mr. Smith says: "As shown by the indicator cards, the engine was working very nearly to its maximum capacity. Had the steam been cut off at an earlier period in the stroke, the fuel consumption per I. H. P. would have been even lower than is shown in the statement, but our intention was to show what the engine is doing in ordinary every day work. It may also be noted that since those cards were taken the the high pressure and intermediate pressure valves have been shimmed up some, and cards taken now show a better distribution of steam in the cylinders."

"STR. JOLIET."

TEST MADE ON LAKE SUPERIOR BELOW OUTER ISLAND.

SEPT. 2ND 1895.

DURATION OF TEST, HOURS	10.
CARGO, NET TONS.	2240.
DRAFT 14'3"— 14'8", MEAN.	14'5½"
AVERAGE SPEED PER HOUR. MILES.	11.27
AVERAGE REVOLUTIONS PER MINUTE.	80.7
AVERAGE STEAM PRESSURE IN BOILERS, LBS	159.
VACUUM, MEAN, INCHES.	22.5
COAL BURNED, LBS.	15991
ASHES, LBS.	1034
PER CENT OF ASHES.	8.34
MOISTURE, LBS.	480.
PER CENT OF MOISTURE.	3
COMBUSTIBLE, LBS.	14177.
COAL PER HOUR. LBS.	1599.
COMBUSTIBLE PER HOUR, LBS.	1418.
COAL PER MILE. LBS.	142
TON MILES PER HOUR.	25245
COAL PER TON MILE, 0Z.	1.01
COST OF COAL PER TON	$ 2.05
MILES PER TON CARGO. 1 CENT FUEL	154.5
EQUIVALENT TO CARRYING 1 TON 1 MILE FOR 65/1000 OF 1 MILL FOR FUEL	
COAL PER I.H.P. PER HOUR	2.015
COMBUSTIBLE PER I.H.P. PER HOUR	1.78



Yacht and Freight Vessel Combined.

In accordance with suggestions from New York yachtsmen, a Bath, Me., ship building concern is figuring on constructing a unique craft that may be used for pleasure purposes during the summer season and put to carrying freight for the balance of the year. The hull above the water line will somewhat resemble a whaleback steamer, with a sort of cockpit, with sharp ends such as are used on the top of a racing shell to protect the deck. Between the decks the craft will be fitted up like a yacht, handsome cabins and staterooms, finished in mahogany and quartered oak to occupy this space. Big deadlights and the deck skylights will thoroughly light these rooms. The lower hold will be devoted to the freight business. While the vessel is engaged in freight carrying the "'tween decks" will be kept closed. The craft will be 200 feet long, 40 feet beam, and 25 feet deep. Her under water lines somewhat suggest those of the old clipper ship, for the craft is designed for yacht speed, and she will be rigged as a four-masted schooner. She will have all the steam appliances of the ordinary freight schooner and all the most modern yacht fixtures and furnishings.

Some of the Insurance Losses.

Insurance on the Kershaw tow, which represents the heaviest loss in the gale of the present week, amounted in all to $63,500, more than half of which was held by companies represented by Smith, Davis & Co. of Buffalo. The Kershaw was insured for $34,700 the Moonlight for $17,200 and the Kent for $11,600. Underwriters other than Smith, Davis & Co. holding risks on these vessels were Worthington & Sill of Buffalo, David Vance & Co. of Milwaukee and C. A. Macdonald & Co. and C. W. Elphicke & Co. of Chicago. Smith, Davis & Co also held the major portion of risks on the steamer Fryer, sunk in the Sault river. The steel steamer Corsica, which ran into the Fryer, and which will require extensive wrecking operations, involving ten days work at the Sault, in addition to costly repairs when she is placed in dry dock, was insured mainly through David, Vance & Co. of Milwaukee. The greater portion of the loss attending the sinking of the steamer Mark Hopkins, which went down in the Sault river as a result of collision with the Vanderbilt, will be borne by firms represented by C. A. Macdonald & Co., although Vance & Co., and Smith, Davies & Co., are also interested in insurance on this vessel.

Air Propellers for Steamships.

To propel balloons and the various forms of air ships, so called, by some kind of screw propeller, much after the manner followed in current steamship practice, has, for a long time, been one of the aims of aeronautic enthusiasts. To equip an ordinary ship, however, in its legitimate element, with air propellers, or, in other words, with propellers revolving in the air instead of in the water, and to effect propulsion solely by their aid, is one of the latest suggestions of the times. It has been proposed to make these air propellers similar in shape to the ordinary water screw, with sails or blades of thin sheet metal, and it is said to have been found, experimentally, that for equal numbers of revolutions, equal intensity of thrust, engine power and speed, the area of the propeller should be about twelve times that of the water screw. A big Atlantic liner, skimming over the sea with what would look like a string of mammoth, children's pin wheels on each side, spinning round in the air, is the startling vision for which, apparently, we are called upon to prepare ourselves.—Cassier's Magazine for October.

In accordance with an order in council that went into effect not long ago, regulations governing the docking of vessels in the government dry dock at Kingston, Ont., are as follows: On vessels and steamers from 200 to 500 tons, dockage to be 10 cents per ton on the registered gross tonnage, and for all tonnage in excess of 500 tons, dockage to be 5 cents per ton upon the excess; dockage on tugs and vessels of less than 200 tons to be $20; lay days in the dry dock to commence twenty-four hours after the dock is pumped out, and to be charged at the rate of 3½ cents per ton per day and fractions of a day; in no case the charge for laying in dock to be less than $20 per day.

Conclusions of the Waterways Convention.

The conclusion of the meeting of the International Deep Waterways Association in Cleveland was, of course, the adoption of a series of resolutions which were confined strictly to the text of a deep waterway to the seaboard As in past conventions of the same kind, other projects were given a hearing and were endorsed as separate measures, but the principal resolutions were confined to the great aim of the gathering.

Immediately upon the opening of the convention it was quite evident that the Chicago drainage canal engineers, and the large number of civil engineers from all parts of the country who were supporting them, would fight any opposition to the Chicago waterway on the claim that it would lower lake levels. This question caused quite a controversy in the committee on resolutions, but action regarding it was barred out of the convention, largely on account of the argument that the lake outflow question is surrounded by uncertainty, and that in the absence of reliable informmation showing that lake levels will be materially affected by the canal, the project should not be discouraged.

Under the leadership of President Livingstone of the Lake Carriers' Association, the vessel owners secured endorsement for the proposed enlargement of all Sault river channels to 500 feet, widening of the Lime-Kiln crossing to 600 feet and the construction of a new canal at St. Clair flats. These were the immediate improvements in which the vessel owners were interested, and the endorsement of them secured in the convention will be of assistance to the Lake Carriers when appropriations are sought in congress next winter.

It is proposed to distribute 20,000 copies of the proceedings of the convention, which will be in print in a few weeks, Secretary Flower remaining in Cleveland to carry out this work. If funds can be secured, and there is little doubt that sufficient money will be forthcoming, the great number of papers and the discussion attending them will be given the widest possible publicity. The principal resolutions adopted by the convention are as follows:

Fourth—That the broadening of the channels through the connecting shallows between Lakes Erie and Lakes Huron and Superior, as recommended by lake carriers, is urgently demanded by the interests of commerce, and is in line with the progressive development of a great trunk water route.

Fifth—That the international interest in the great fresh water seas of the American continent and in the ship routes joining them to the ocean is recognized, and that the use of their waters and the control of their levels are proper subjects for international regulations.

Sixth—That pending the development of the best deep channel or channels to the ocean the promised early completion by the Canadian government of the St. Lawrence canals, if possible with lengthened locks will result in marked benefit to international commerce and the producers of the interior; and likewise that the movement in the state of New York toward lessening the cost of transportation to tide water by improving the Erie canal, which must have a permanent value, is noted with satisfaction by this convention.

Seventh—That with respect to the several resolutions offered concerning local canal projects all enterprises designed to extend marine commerce through lateral routes tributary to the great lakes system are to be encouraged.

Eighth—That this convention calls special and renewed attention to the desirability of establishing a permanent international court as set forth in the organizing convention in Toronto in 1894.

Recognizing the supreme utility of deep waterways through the great lakes and thence to the sea, and reaffirming in full the platform adopted at the organizing convention held at Toronto in 1894, the International Deep Waterways' Association in first convention assembled, declares as follows:

First—That the public welfare demands the deepest practicable channels between the several lakes and to the seaboard to enable vessels of the most economical type to pass between lake ports, or between the lakes and the seaboard, or to foreign waters, without necessity of transshipments.

Second—That the said requirements call for a least depth of 21 feet in all channels, and the building of all terminal structures for a navigable depth of 26 feet or more in order that the water courses may be progressively and economically deepened to the ultimate necessities of traffic.

Third—That the prompt action by the congress of the United States and the government of the dominion of Canada providing for a joint commission to investigate and report upon the establishment and maintenance of deep water between the great lakes and the sea, conformably to the resolution adopted at Toronto in 1894, is a matter of congratulation and that in view of the extended scope and great importance of the subjects to be examined by the said commission, this convention urges that the most liberal provision be made for the necessary expenses.

Officers of the association, elected during the closing session, are as follows: International president, Sir O. A. Howland, M. P. P., Toronto; United States vice president, L. E. Cooley, C. E.,Chicago; Canadian vice president, James Fisher, Q. C., M. P. P., Winnipeg; executive secretary, Frank A. Flower, West Superior, Wis.

Executive board—A. L. Crocker, Minneapolis; Frank A. Flower, West Superior, Wis ; Captain J. S. Dunham, Chicago, Ill.; James Connell, Port Arthur, Ont.; Hon. H. W. Seymour, Sault Ste. Marie, Mich.; R. R. Dobell, Quebec, P. Q.; Thomas H. Canfield, Burlington, Vt.; D. B. Smith, Toledo; Hon. S. M. Stephenson, M. C., Menominee, Mich.; Hon George H. Anderson, Pittsburg; General E. C. O'Brien, New York city; A. P. McGuirk, Davenport, Ia.; E. V. Smalley, St. Paul; A. H. Burke, Duluth, Minn.; Hon. Don M. Dickinson, Detroit; Ryerson Ritchie, Cleveland; Frank J. Hearne, Wheeling, West Va. Terms of members of this board, from one to three years, will be determined by lot at the first meeting.

Revenue Service Vessels.

In the last issue of the Journal of the American Society of Naval Engineers, Charles A. McAllister, first assistant engineer, U. S. N., describes the first-class revenue cutter which the Globe Iron Works Company, Cleveland, is building for lake service and also a similar vessel that is being built at the Atlantic works, East Boston, for New England coast service. The contract price of the lake steamer is $148,700 and that of the coast vessel $159,951. In addition to the two vessels, plans and specifications are now being prepared by the treasury department for a cruising cutter intended for use on the Pacific coast at a cost not to exceed $200,000, and a small cutter for use in San Francisco harbor, at a cost not to exceed $50,000. Appropriations for these additional vessels are partly in hand. The Pacific coast cutter will be about 220 feet long over all, 200 feet long on the water line, 32 feet 10 inches extreme beam, 12 feet 3 inches mean draught, and have a displacement of about 1,000 tons. She will be a single screw vessel, having a triple expansion engine capable of developing 2,000 horse power. The San Francisco harbor boat will be 110 feet long,and have a triple expansion engine capable of developing about 500 horse power.

What is Meant by Direction of Wind.

Doubtless many readers will call to mind cases where, with a light beam wind and yards nearly square, a vessel under sail alone has made some phenomenal speed, unaccounted for except on the supposition that the real direction of the wind was from a point abaft its apparent direction This, however, is no explanation at all, as will be seen by a little consideration. What is meant by the real direction of the wind is only relative. It is the direction with regard to a fixed point on the earth's surface. The apparent direction of the wind is a resultant of two motions, and is the true direction with regard to a moving object on the earth's surface—namely, the ship. There is no more reason to take into consideration the direction of the wind with regard to a fixed point on the earth's surface, than with regard to a fixed point in space, and this latter is manifestly absurd. But much of the result of trimming yards fine for winds abeam is readily accounted for by the suction. Probably the high speed of the ice-boat is largely due to the same thing. The same is true of wind mills.—J. C. Irminger.

Stocks of Grain at Lake Ports.

The following table, prepared from reports of the Chicago board of trade, shows the stocks of wheat and corn in store at the principal points of accumulation on the lakes on Sept. 28, 1895:

	Wheat, bushels.	Corn, bushels.
Chicago	14,601,000	1,881,000
Duluth	5,293,000	.....
Milwaukee	491,000	.....
Detroit	391,000	37,000
Toledo	943,000	216,000
Buffalo	1,985,000	240,000
Total	23,704,000	2,374,000

As compared with a week ago, the above figures show at the several points named an increase of 560,000 bushels of wheat and 437,000 bushels of corn.

Harbor Springs, Mich., records a peculiar action of the water in Little Traverse Bay on the 11th inst. The water went down fully 5 feet, and left boats that were tied at the wharfs lying on the bottom of the lake. Scarcely a summer passes that one of these tidal waves does not occur. This is the second one this year. Uusually the water comes back with such force that it carries row-boats and small crafts high and dry, but in this case, though it receded farther than ever before, it came back slowly, and did not go much higher than the usual water level; then it again receded and the water now remains a foot or more lower than it was before.

Hunters' rates to points in Michigan and Wisconsin are offered by agents of the Nickel Plate road until Nov. 15. 422-14

Ship Yard Matters.

Among the bids for six new gunboats to cost not over $230,000 each, opened at the navy department Tuesday, was one from the Detroit Dry Dock Company, which on account of the treaty regulations, was the only bid from the lakes. The bids were as follows: Lewis Nixon, for one of the single screw boats, $238,200, on his own designs, and $16,700 deducted if the auxiliary steam apparatus is excluded; Union Iron Works of San Francisco, one single screw boat on the department designs, $246,000, with $16,200 deducted for the auxiliaries; for two boats of this class $240,000 each with corresponding deductions for the omission of the auxilaries: for one of the twin screw boats $215,000 with the corresponding deductions on account of the omission of the auxiliaries and two of this class $209,000 each with deductions if necessary; the Detroit Dry Dock Company, one of the single screw boats for $215,750, with deductions of $3,750 if the auxiliaries are omitted; two boats of the same class $429,000 each (a mistake in the bid, as explained, which should have read for both) for one of the twin screw boats, $213,750, or $425,000 for both, with similar deductions; the Bath Iron Works of Maine, two single screw boats for $229,400 each; John Dialogue of Camden, N. J., two of the single screw boats for $460,000. This last bid was received after the time fixed in the advertisement but before the opening of the other bids. As the Detroit company was the lowest bidder on two of the boats it is thought that the contract will be awarded to them, providing the existing treaty regulations can be set aside, or providing the United States government has half the independence the Canadian government had when they built the Constance, Petrel and other cutters at Owen Sound, and which can not only be turned into gun boats but have the eperon bow with which they could sink half the lake fleet as they came through the rivers and thus block lake commerce. Of course, they will never be used for this purpose and neither will these two gunboats be used to shell Canadian cities. The REVIEW will furnish the secretary of state a detailed description of these Canadian gun boats built and maintained on the lakes and St. Lawrence river if nothing is known of them. But if the bid is rejected on that account the Detroit company has a branch on Puget Sound and can forward the boats in sections and put them together on the Pacific coast. In fact, considering the demand for lake vessels just now this might be an economical move, as it would fully establish the yard on the Pacific coast, a project which has been considered by this company for some time.

The Detroit Dry Dock Company will build for the newly organized Wolverine Steamship Company, made up of Capt. E. M. Peck and three millionaires and other large capitalists, a 5,000 ton steel steamer. She will be 420 feet over all, 400 feet keel, 45 feet beam and 28 feet deep. She will cost $275,000 and will have a speed of 12 miles an hour. It is expected that the channel system will be used in her construction. Capt. M. W. Humphreys will manage the new steamer,which might very appropriately be named the O. M. Poe. The other steamer will be of steel for C. R. Jones and others, Cleveland, and will cost $130,000. She will be 254 feet long, 42 feet wide and 14 feet deep, Welland canal size. She will run in the lumber trade to Ogdensburg. Four-inch oak will be used for sheathing her bottom.

The Niagara Navigation Co. of Toronto has closed a contract with the Bertram Engine Works Co. of that place for a sidewheel steamer to take the place of the Cibola, which was burned at Lewiston. The new boat will be a little larger than the Cibola. She will be 285 feet keel and 32 feet beam. The engines of the Cibola, which were pretty badly damaged by the fire, will be repaired and put in the new boat. Mr. A. Angstrum, formerly of the Cleveland Ship Building Company, is manager of the Bertram works and will design the hull. This boat will run on the same route as the Chippewa designed by Frank E. Kirby and another steamer built in eastern yards. There will be considerable interest in watching the speed of these three steamers next season.

There is some possibility that the contract for the Goodrich line steamer will go to F. W. Wheeler & Co., in spite of the fact that Mr. Goodrich is known to be very much impressed with Mr. Kirby's ability to give him a very fine steamer. It is said that an inducement has been offered by the West Bay City yard in the way of taking the steamer Menominee in part payment. Now that the Ossifrage has been sold there would seem to be the some truth in the report.

The Buckeye Transportation Co., is the name of the new Cleveland company consisting of P. J. Minch, Chas. Hutchinson, W. S. Manuel and others, formed for the purchase of the Davidson steamer City of Glasgow. The steamer was turned over to the new company Thursday. The price was $110,000.

The Lake Michigan Car Ferry Transportation Company is asking for bids from lake ship builders for two barges and a large tug, to be ready for the opening of navigation next year. The transferring of cars on the two barges already built, between Peshtigo and Sauth Chicago has proven a success and the tug Perrett which was towing them has been purchased,

Last Thursday a steel lumber steamer, 254 feet over all, 238 feet keel, 38 feet beam and 14 feet deep, was launched from Wheeler's West Bay City yard for Simon J. Murphy, Detroit, and a duplicate vessel excepting the wooden sheathing, will be launched from the same yard for McCormick Bros., Bay City. Wheeler & Co. has a keel ready to put down in the empty berths.

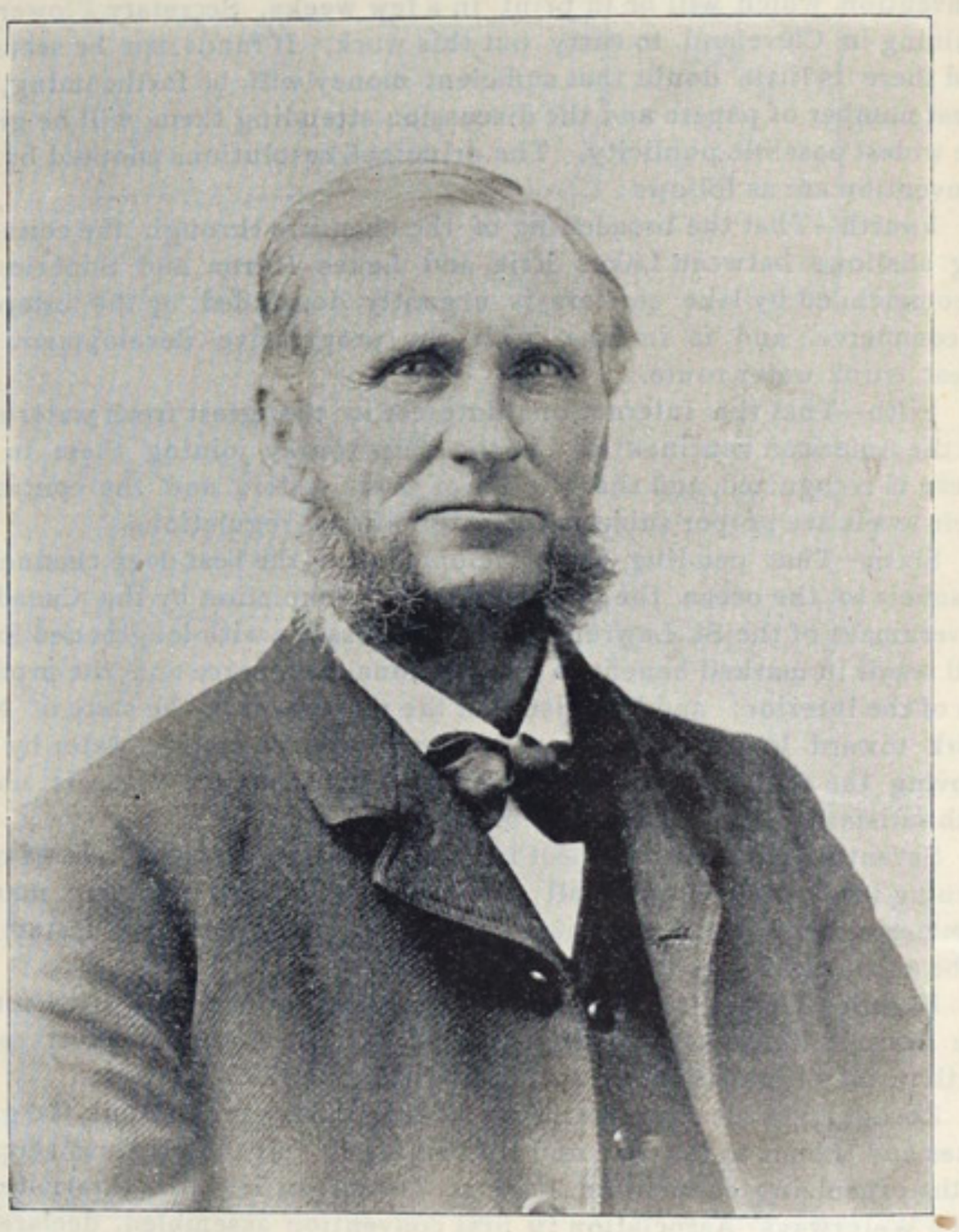
Curtis & Brainard are making preparations to build a wooden steamer at Marine City during the winter.

The wooden vessel to be built by S. Langell & Sons of St. Clair, Mich., will be a consort for the Oscar T. Flint, and will be of about 2,000 tons capacity.

General Manager Greatsinger of the Duluth & Iron Range Railroad, controlling docks at Two Harbors, is figuring on construction of a large steel harbor tug, to be ready for service next season. He had intended to consult the management of the Cleveland Ship Building Co. about the vessel when here last week in attendance at the meeting of the International Deep Waterways Association, but was not quite ready to ask for bids.

Samuel Mather of Cleveland is chairman of the committee appointed by directors of the American Steel Barge Co. to look after the building of the two big whaleback vessels for which keels are about to be laid. Mr. Mather and Capt. McDougall are now figuring with engine building concerns for the construction of machinery for the steamer.

Capt. John Shaw.



Considerable surprise was occasoned by the death of John Shaw, who when he visited Cleveland last, looked rugged and equal to at least another decade. He was born near Port Burwell 60 years ago and moved to Bay City 25 years ago. All his life was devoted to sailing the lakes. In his early days he was captain of small hookers on Lake Erie and afterward engaged in the lumber trade. He finally put all of his earnings into the schooner Exile, which he sold in 1884. Interesting the Eddy brothers in marine business, they built the schooner John Shaw in 1885, and afterward the steamers John F. Eddy, C. A. Eddy and the Newell Eddy, and later the steamers Selwyn Eddy and Penobscot. He quit sailing in 1886, and has since then managed the Eddy-Shaw fleet. At this time a steel steamer is on the stocks at Wheeler & Co's. yard for the company. Shortly after the steamer E. C. Pope came out the company purchased her. Capt. Shaw was acting manager of the fleet, being interested in the Selwyn Eddy, Penobscot and E. C. Pope. He leaves two sons and two daughters. The sons are Capt. Howard Shaw of the Penobscot and John Shaw, a marine lawyer of Detroit.

John M. Mulrooney, editor of the MARINE REVIEW, and Miss Sarah Deasey, were married Wednesday morning at the church of the Holy Name. They left the same afternoon for Old Point Comfort, New York and Boston. After Nov. 1 they will be at home at 51 Irvington-st.

THE VESSEL OWNERS' GYMNASIUM.

This Gymnasium, which has been closed up for several seasons on account of lack of funds, has now reopened. Considering the advantages offered owners for muscle-making there is no excuse for anyone taking any back talk from the shippers. Shippers will be allowed to sit in the gallery as spectators, providing they behave themselves and do not throw peanut shells on the floor or do any loud talking.

"The shrewdest observers of conditions in the iron business that are certain to have a bearing on the lake freight situation, are of the opinion that the owner who ties up to low contracts this season will make a mistake. It is generally expected that one month following another will bring improvement in the general condition of business throughout the country. The amount of ore to be moved will certainly be very heavy, and it would not be surprising if the shipments of 1895 exceed all previous records. Among Cleveland bankers, whose relations with men in the iron ore business and the various manufacturing interests allied to that industry are of the closest kind, the feeling of late has been decidedly encouraging. The consumer is becoming confident of improvement in all lines of trade. Banks are reaching their limit in loans, and the question now with the iron ore producer and vessel owner has reference to whether better prices will come in time to enter into the settlement of sales and freight contracts for the coming season's business."
—From the MARINE REVIEW, March 21, 1895.

MARINE REVIEW

DEVOTED TO THE LAKE MARINE AND KINDRED INTERESTS.

Published every Thursday at No. 516 Perry-Payne building, Cleveland, O

SUBSCRIPTION—$2.00 per year in advance. Single copies 10 cents each. Convenient binders sent, post paid, 75 cents. Advertising rates on application.

The books of the United States treasury department on June 30, 1895, contained the names of 3,342 vessels, of 1,241,459.14 gross tons register in the lake trade. The number of steam vessels of 1,000 gross tons, and over that amount, on the lakes on June 30, 1894, was 359 and their aggregate gross tonnage 634,467.84; the number of vessels of this class owned in all other parts of the country on the same date was 316 and their tonnage 642,-642.50, so that half of the best steamships in all the United States are owned on the lakes. The classification of the entire lake fleet on June 30, 1895, was as follows:

Class.	Number.	Gross Tonnage.
Steam vessels	1,755	857,735.00
Sailing vessels	1,100	300,642.00
Unrigged	487	83,082.00
Total	3,342	1,241,459.00

The gross registered tonnage of vessels built on the lakes during the past five years, according to the reports of the United States commissioner of navigation, is as follows:

		Number.	Net Tonnage.
Year ending June 30,	1891	204	111,856.45
" " "	1892	169	45,168.98
" " "	1893	175	99,271.24
" " "	1894	106	41,984.61
" " "	1895	93	36,353.00
Total		747	334,634.28

ST. MARY'S FALLS AND SUEZ CANAL TRAFFIC.

(From Official Reports of Canal Officers.)

	St. Mary's Falls Canal.			Suez Canal.		
	1894.	1893.	1892.	1894.	1893.	1892.
No. vessel pass'ges	14,491	12,008	12,580	3,352	3,341	3,559
T'n'ge, net registd	13,110,366	9,849,754	10,647,203	8,039,106	7,659,068	7,712,028
Days of Navigat'n	234	219	223	365	365	365

Entered at Cleveland Post Office as Second-class Mail Matter.

OFFICERS of the Lake Carriers' Association have been called upon several times of late to explain that it is impossible for the association to deal with all local matters or to take up the affairs of individuals in the association. At the last meeting of the executive committee a communication was received from Mr. J. J. Rardon of Chicago, managing owner of the steamer City of London, in which he explained that his vessel took a cargo of grain to Erie, which upon being discharged at that point was found to overrun some 800 bushels. Mr. Rardon expected, of course, that he would be paid for this excess of cargo, as he would have been charged for any shortage that might have occurred. Upon the grain being shipped to the seaboard, however, it was claimed that a mistake had been made at Erie, and Mr. Rardon met with refusal on his claim. He was desirous of having the Lake Carriers' Association take the matter up and make a test case of it. But the executive officers did not look at the question in this light. They have done nothing regarding it, as most of them are of the opinion that matters of this kind, under the rule regarding shortages and overruns, should be settled between owners and shippers. If the question was one of changing the custom, they say, then it would come within the province of the association for action.

THE completion of the two big whaleback vessels to be built at West Superior during the coming winter will mark another progressive change in methods of carrying ore and coal on the lakes. They will be the first in the line of big tows. Several very large steel tow barges have been built of late, but they are not placed behind the largest steamers. In this case there will be a whaleback steamer of about 400 feet length over all and a tow barge of about 380 feet over all. They will probably carry together 10,700 net tons on 16 feet draft, and with 18 feet draft in the future their combined capacity may exceed 14,100 net tons. Big barges have been talked of to tow behind other steamers of the 400 foot class, and the operation of this immense whaleback tow, when completed, will be watched with interest.

AMONG resolutions adopted at the Cleveland meeting of the International Deep Waterways Association was one endorsing the hydrographic service on the lakes. This resolution was introduced by Mr. Luther Allen, secretary of the Globe Iron Works Co., Cleveland, and upon its adoption Lieut. Blow, U. S. N., who is in charge of the branch hydrographic office at Chicago, and who represented the navy in the convention, was called upon and spoke briefly regarding the work of the service, its achievements and hopes for the future.

THE Lake Carriers' Association at its next annual meeting should join Atlantic coast ship owners in petitioning congress for more liberal laws to prevent the libelling of vessels by irresponsible persons. The existing laws are unfair, as they subject vessel owners to unjust suits and false claims that are often paid simply to avoid annoyance and expensive litigation. The National Board of Steam Navigation, an organization made up largely of coast ship owners, has taken up this subject, and lake vessel owners should cooperate with them in the next congress.

In General.

The statement is made in the annual report of the Northern Pacific railroad that it will be necessary to relay 1,400 miles of track with steel rails during the next five years.

The death of Ralph Hart Tweddell is announced in English journals. He was known to ship builders in all parts of the world as the inventor of numerous hydraulic machines that are used in ship building.

It has been rumored in the east for some time past that Edwin S. Cramp, superintending engineer of the William Cramp & Sons Co., was to resign his position with the big Philadelphia concern and take an interest in the Globe Iron Works Co., Cleveland, but the story is denied in both Philadelphia and Cleveland.

A bridge of the lift type, similar to the Halsted street bridge, Chicago, is to be built over Newton creek, Long island, between Manhattan and Vernon avenues, Brooklyn. The water span is 140 feet. The bridge will cost $418,000. Its total length will be 160 feet, and its total height to the top of towers 205 feet. The hoisting apparatus will be worked by electricity, the roadway of the bridge being elevated 144 feet in 40 seconds.

W. E. Curtis, who returned from Japan recently, is credited by a San Francisco dispatch with the following statement: "It is understood that the Union Iron Works will get an order for one battle ship and one cruiser for Japan, and that the Cramps will receive a like commission. If the Cramps and Scott succeed in getting contracts for building war ships, Carnegie and the Bethlehem works will probably furnish the armor plate."

The report of Chief Engineer Perry and Passed Assistant Engineer Norton regarding the Northern line passenger steamer North West has been submitted to the secretary of the navy, but it has not as yet been made public. It is again said that the engineers speak in complimentary terms of the vessel itself, but the boilers are condemned, it being the opinion of the officers named that they are not good enough for adoption in the naval service.

Another American, Anthony Drexel, has gone abroad for a steam yacht, which he might have got here if he had been so minded. Plans have been drawn by George Watson, designer of the several Valkyries, for a new twin-screw steam yacht for Mr. Drexel, and these plans are now with the Ailsa Ship Building Company, Scotland. The new yacht will be 280 feet long and 30 feet wide. The boat will make 16 knots per hour, will carry coal for 7,500 knots at 11 knots per hour, and is to be finished in June.—The Engineer.

It is understood that Secretary Herbert will award the contract for the construction of one of the torpedo boats, for which bids were opened recently, to the Moran Bros. of Seattle, Wash., at their bid of $160,000, and contracts for the construction of the remaining two to the Herreshoffs at their bid of $147,000 each. A recommendation to this effect was made by Chief Naval Constructor Hichborn and Engineer-in-Chief Melville, to whom the question was referred.

Japan's shipbuilding program for the next five years has been definitely settled. In addition to the two large ironclads now building in England, she is to have four line-of-battle ships of the Royal Sovereign type, three cruisers of from 7,000 to 8,000 tons, four cruisers of 4,000 tons, with a speed of 20 knots, and a number of smaller craft. When this program is carried out her fleet will comprise six first class line-of-battle ships, each more powerful than any vessel flying a foreign flag in eastern waters, and a large squadron of magnificent fast cruisers.

Another big Atlantic freight steamer, the Victorian, left Boston for Liverpool, a few days ago, with a cargo that seems larger than the load which the White Star liner Georgic took out of New York on her first trip eastward. The Victorian's cargo consisted of 155,000 bushels of grain, 1,800 tons of flour, 1,100 tons of provisions, 800 tons of resin, 5,300 bales of cotton, 500 tons of leather, 260 tons of dressed beef, 100 tons of lumber and 75 tons of hay and feed for cattle. At the last moment 654 head of cattle and 1,591 sheep were loaded. The weight of the cargo was about 12,000 tons, and the vessel was loaded in ninety hours.

Illustrated Patent Record.

SELECTED ABSTRACTS OF SPECIFICATIONS OF A MARINE NATURE—FROM LATEST PATENT OFFICE REPORTS.

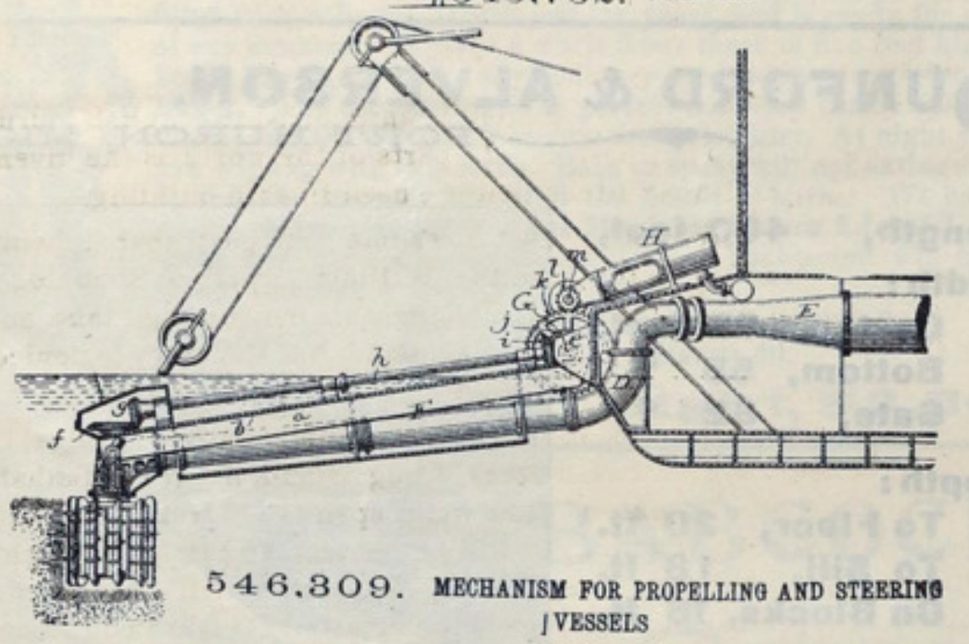
545,762. Dredger. Lindon W. Bates, Chicago, Ill. Filed March 4, 1895. Serial No. 540,525.

Claim—In a hydraulic dredger, the combination with a boat; of groups of two or more ladders and appurtenances arranged side by side and with the ladders of each group rigidly connected; and means for raising and lowering the groups of ladders.

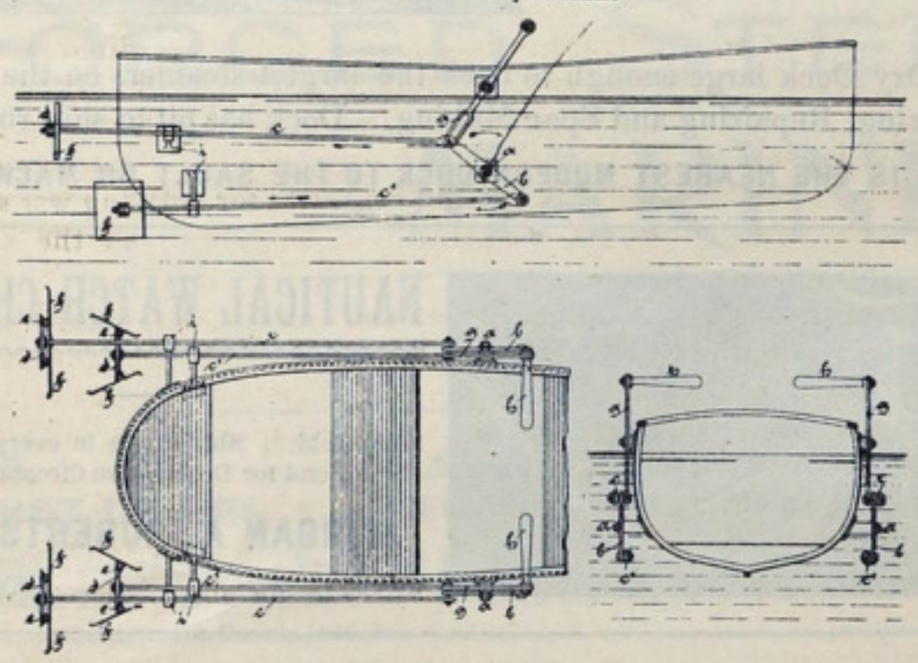
546,309. Mechanism for Propelling and Steering Vessels. Ernst F. H. Demnitz, Nieder-Sedlitz, Germany. Filed Dec. 19, 1894. Serial No. 532,362. Patented in Germany Feb. 4, 1895, No. 79,331.

Claim—The combination with a boat, of a pair of rods arranged longitudinally upon each side of the boat, the rods of each pair adapted to

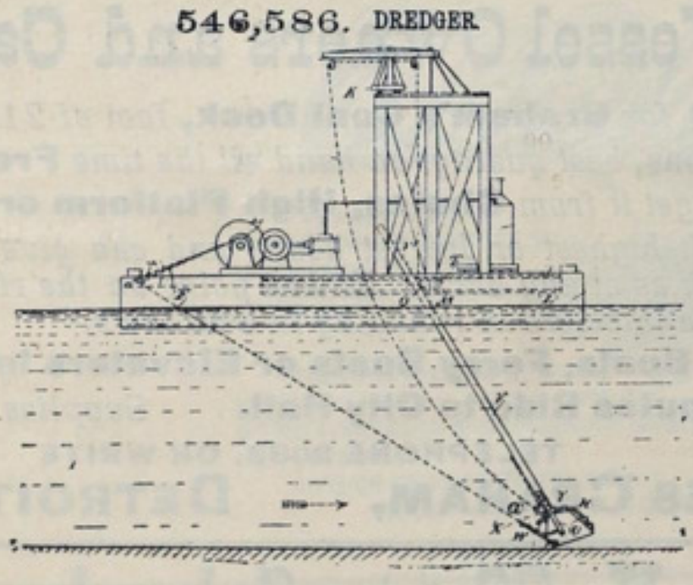
545,762. DREDGER



546,309. MECHANISM FOR PROPELLING AND STEERING VESSELS



546,586. DREDGER



be reciprocated in opposite directions, a pair of thrust blades or wings pivotally connected with each of the said rods at the rear ends of the latter and each adapted to swing in opposite directions in the manner described, a lever pivotally connected to each side of the boat and similarly connected at its ends to the forward ends of the respective pair of rods, and a second lever pivotally connected to the boat upon each side thereof, the latter levers having pivotal connection at their lower ends with the upper ends of the first levers, and provided with handles at their upper ends.

546,586. Dredger. William H. Diestelhorst, Redding, Cal. Filed Feb. 27, 1895. Serial No. 539,921.

Claim—A dredging apparatus consisting of anchored floats connected together with a space or channel between them, an engine or source of power mounted upon one of said flats, a traveling derrick mounted upon the other, a bucket or scoop having a handle with a bail at the lower end to which the bucket is swiveled, a rope or chain with direction pulleys over which it extends from the winding drum upon the engine to the derrick from which the bucket is suspended, a second rope or chain extending from a winding drum of the engine around direction pulleys and connected with the front of the bucket, whereby the latter may be drawn forward, a car or frame traveling upon horizontal guides upon one of the floats, a brake or locking mechanism whereby it may be fixed at any point on the track with relation to the position of the bucket and the angle of its handle, a lever or mechanism connected with the movable car extending across the space between the boats and devices by which the handle of the bucket is temporarily fulcrumed to said lever so that when the bucket is drawn forward it will describe the arc of a circle and be forced into the material in the bed of the stream to receive its load.

Trade Notes.

A recent test of the engine built by the Buffalo Forge Co. for the county house electric plant proved entirely satisfactory. The Buffalo Forge Co. is making a large number of engines for plants of this kind.

Three new contracts for small vessels are announced from Bath, Me., yards. The Bath Iron Works will build a steel steam yacht, to be schooner rigged, for Boston parties; Kelly, Spear & Co. will build a lumber schooner 136 feet long, and Charles Harrington will build a wooden passenger steamer 111 feet long.

Mr. Albert Fisher of the firm of Fisher & Porter, Chicago, recently dissolved, will retain the firm's old offices in the Monadnock block, and in addition to representing Wm. Tod & Co. of Youngstown, as already announced, will also represent the Cleveland City Forge & Iron Co., manufacturers of all kinds of wrought iron forgings.

The Boston and New York pilot boats have been fitted with the new Graham-Meyer torch, which is being introduced on the lakes. This is the time of year when a torch may be the means of saving a crew by being used to attract attention of passing steamers. Of course all vessels have some kind of a torch, but things of this kind aboard vessels are often found out of order when most needed. The torch mentioned is always ready and gives a bright light that cannot be extinguished by wind or spray, and if submerged in water it can be immediately relighted. It burns readily for 15 minutes and can be renewed any number of times by dipping it in the cup. The United states signal corps is experimenting with it. It is for sale by all ship chandlers.

The Jos. Dixon Crucible Co. has been sending out samples of their flake graphite to railroad engineers and they like it so well for cooling hot journals that some of them are buying and paying for it out of their own pockets. Of course some men in charge of machinery would discourage an act of this kind on the part of an engineer but we have in mind a young marine engineer who bought an indicator about ten years ago, and who was laughed at by some of his associates. He is now superintending engineer of one of the largest engine building concerns on the lakes. But it is not necessary for engineers to pay for the graphite themselves if they will only tell owners what it will do for their engines. Send name and address to this company at Jersey City, N. J., for a sample.

Capt. E. M. Peck and wife of Detroit observed their golden wedding by a dinner at the home of Cleveland relatives, Sunday. Capt. Peck lived in Cleveland for 28 years after his marriage and was engaged in ship building. During that time his firm, Peck & Masters, built over one hundred vessels of all kinds and many of them are still engaged in the lake trade. Willis Masters, the son of Capt. Peck's partner, was present at the dinner. Capt. Peck spent this week visiting friends in Summit county, where he was married. Among the vessels built by Capt. Peck was the Fountain City which he sailed for several years. Although 32 years old she is still engaged in the lumber trade, and only a few years ago was in the passenger line of the Western Transit Company. He also built the Watson, Unadilla, Forest City and Hackett, and with the last two introduced the towing of barges in the lake trade. This economical means of transportation is coming into use again. He lived in Milwaukee for eight years but the bulk of his fortune was made in Detroit in transportation business.

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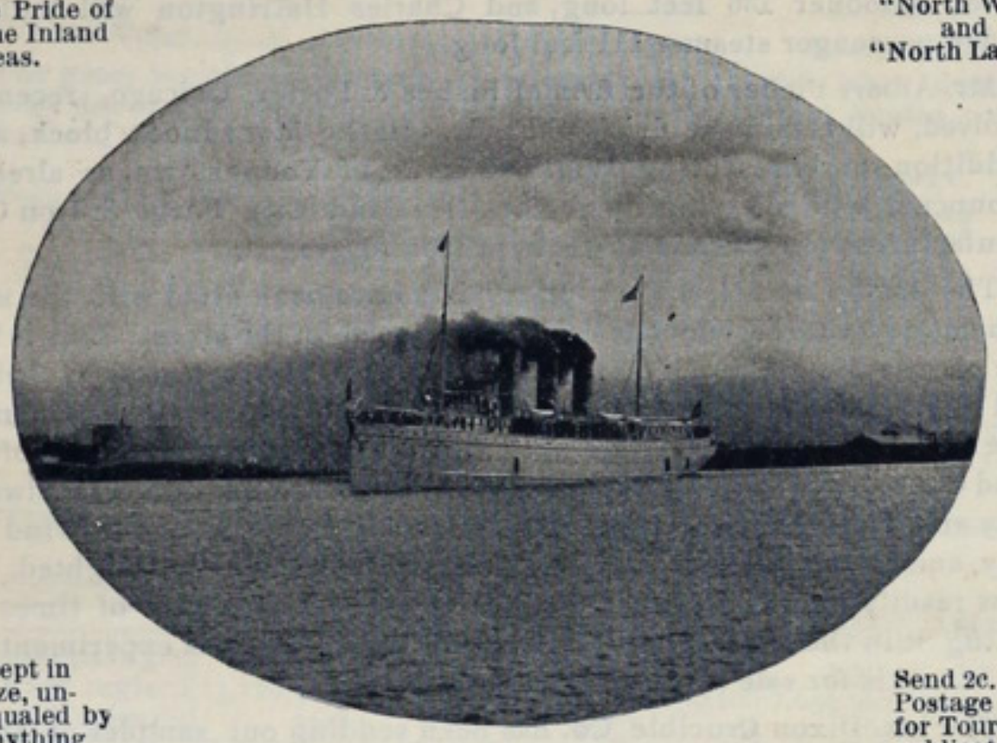

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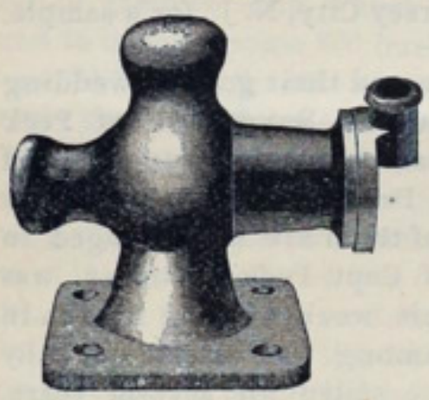

Takes the place of wooden or iron bitts and forms a Combination Bitt and Winch. Takes up less room than the ordinary bitt. Can be used to great advantage as a Windlass or Sheet Holder on Yachts. An examination will convince you of the many uses to which it can be put.

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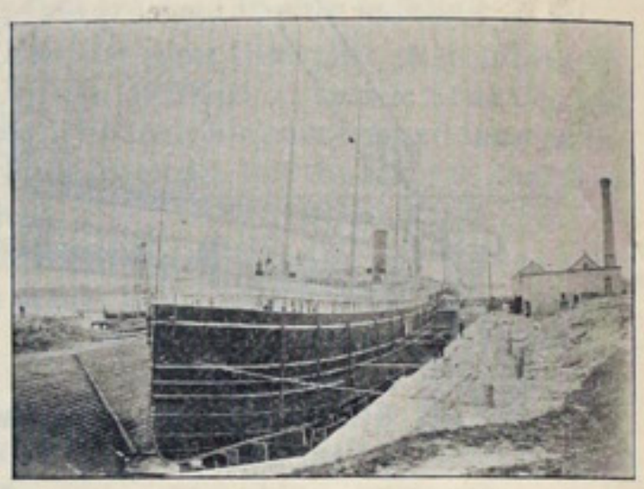

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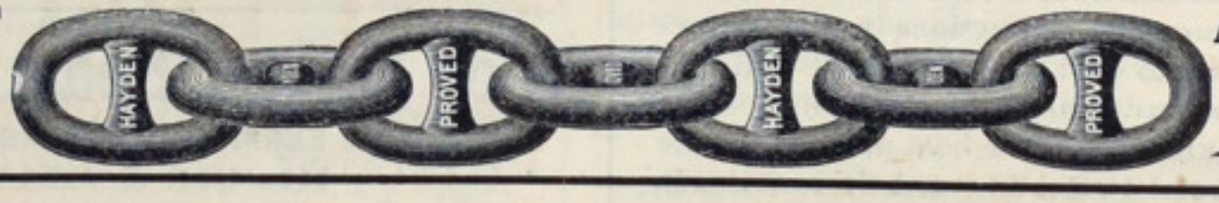

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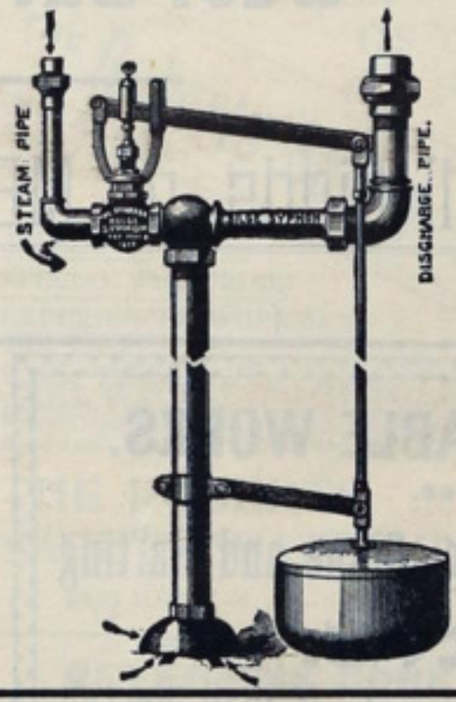

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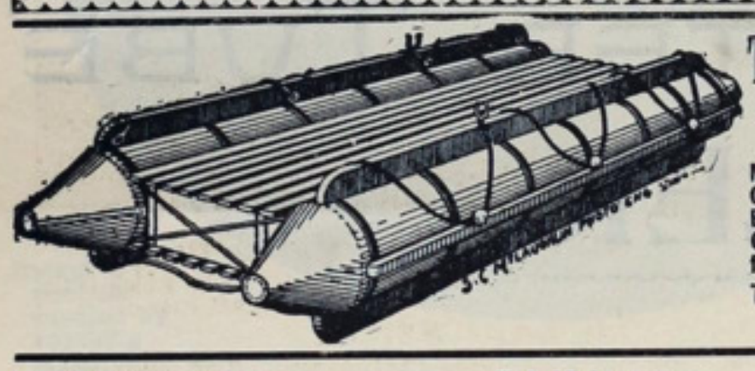

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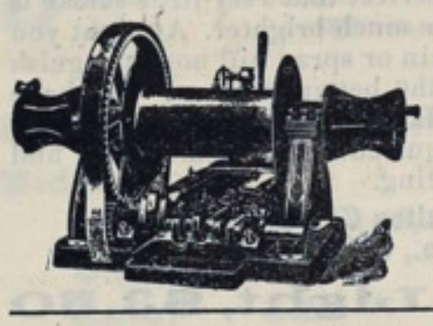

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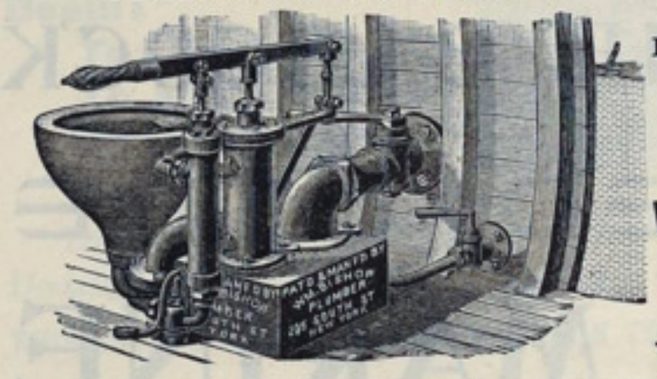

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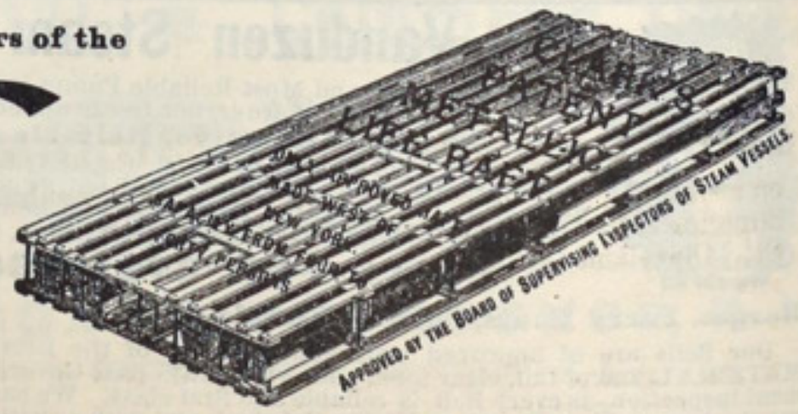

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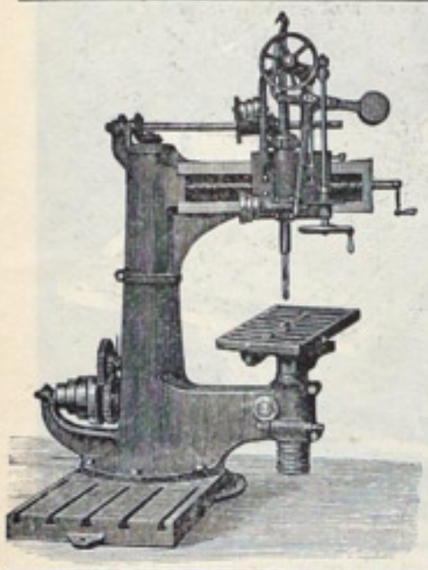

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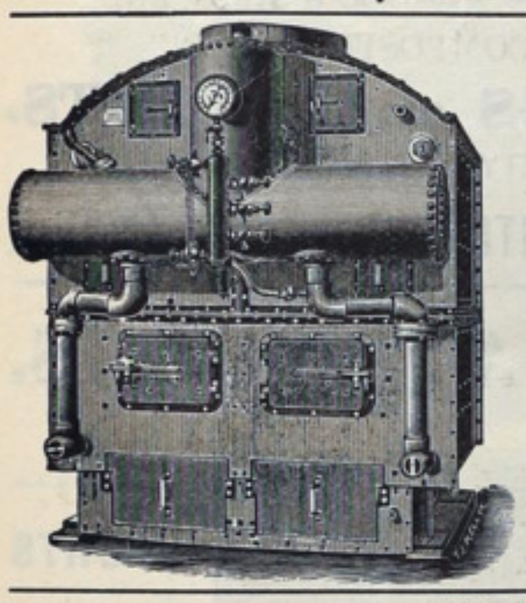

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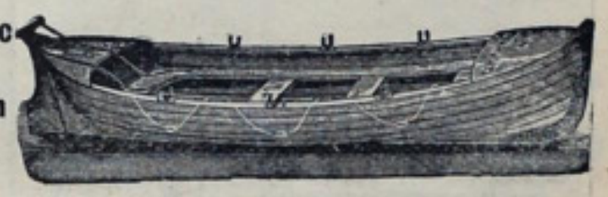

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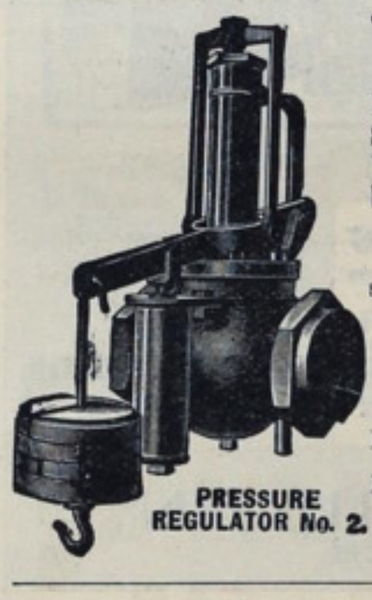

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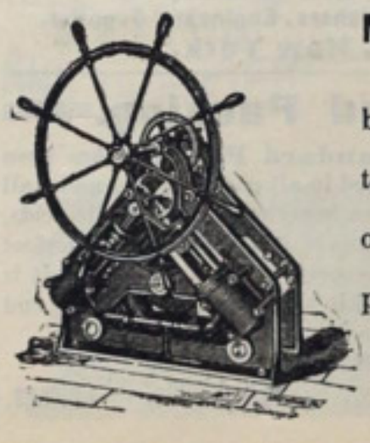

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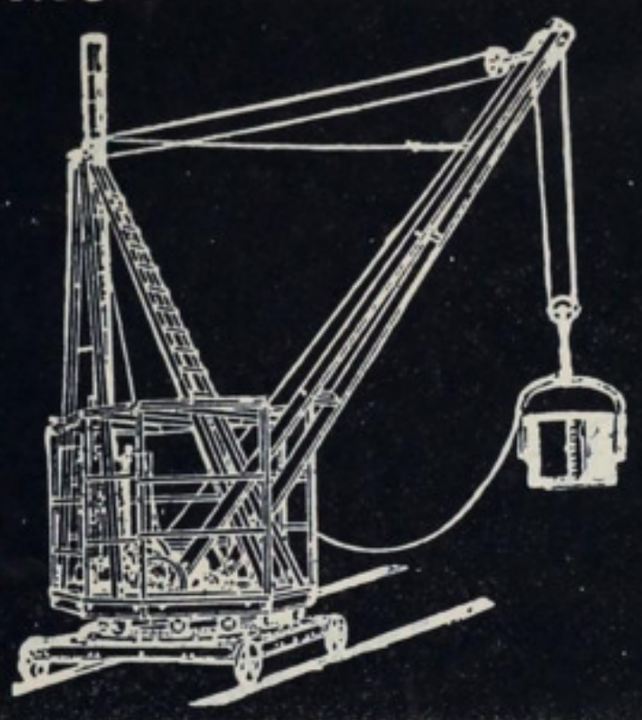

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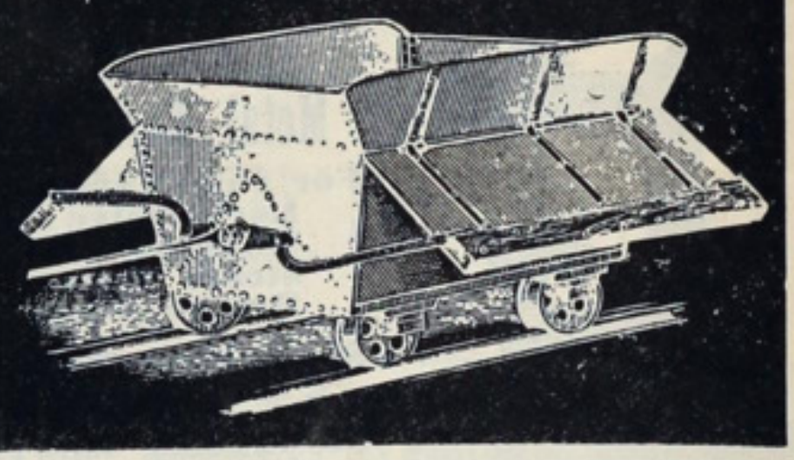

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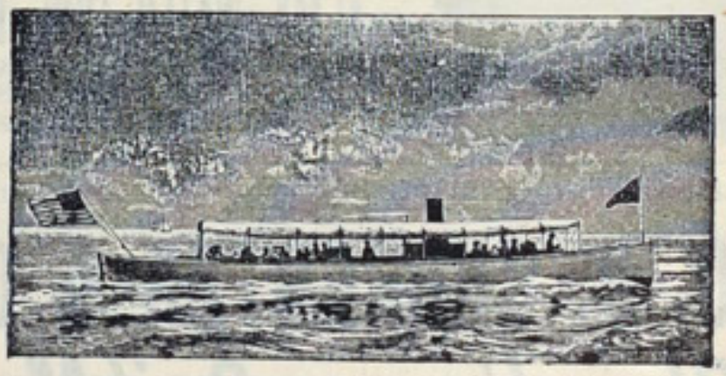

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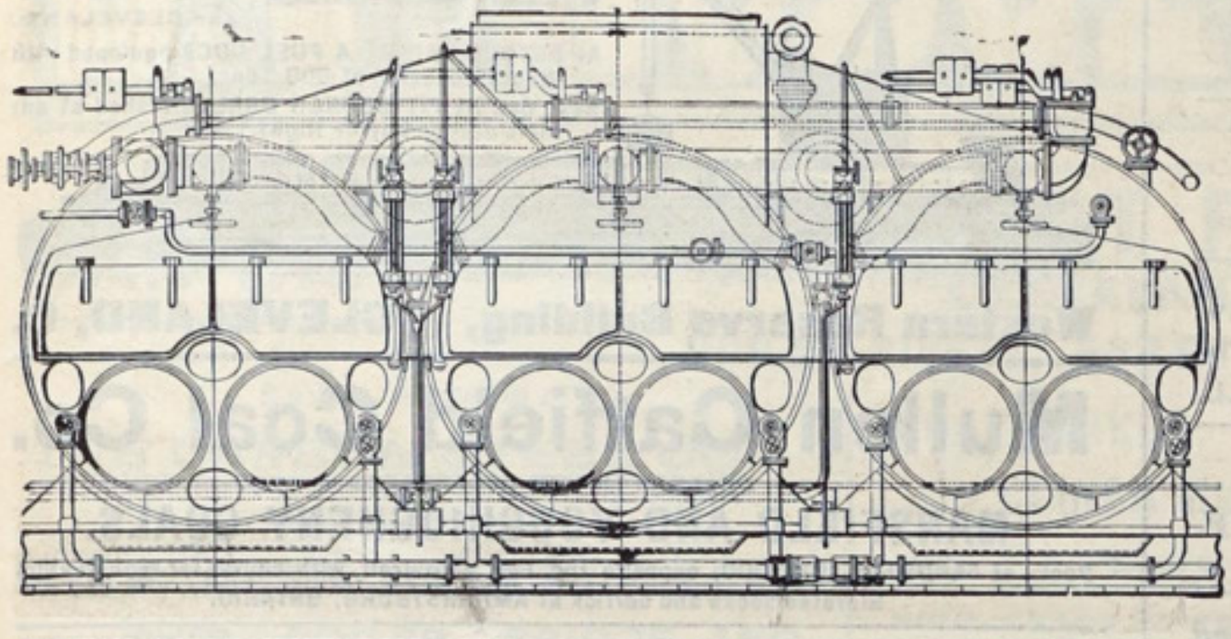

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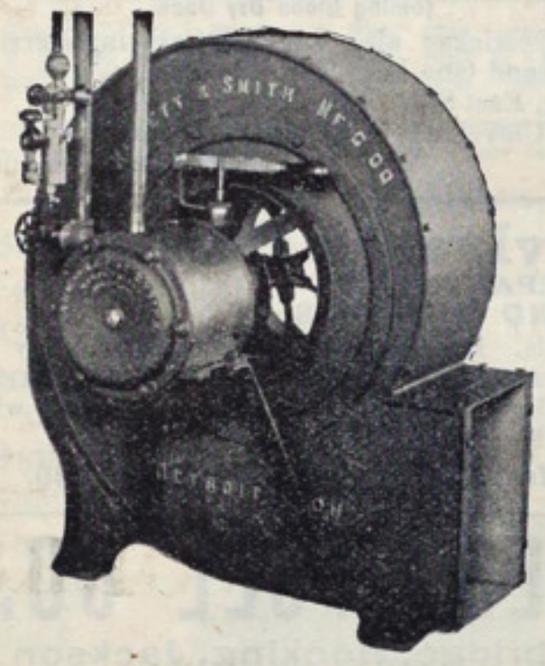

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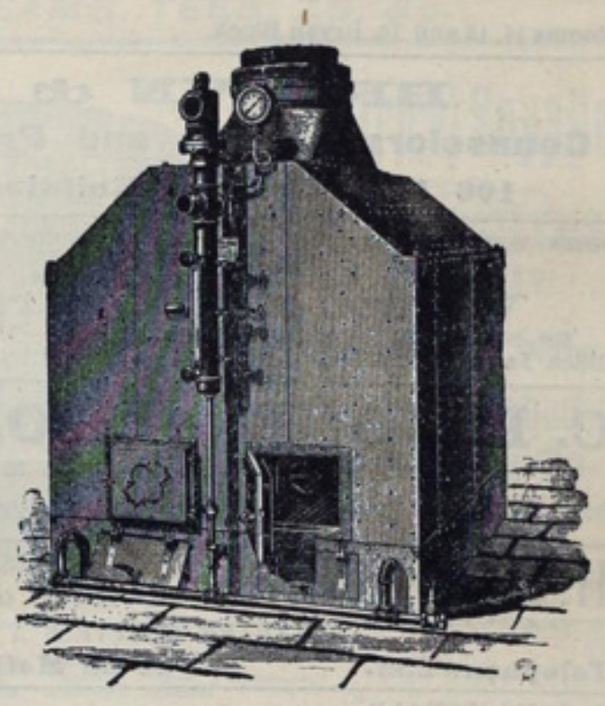

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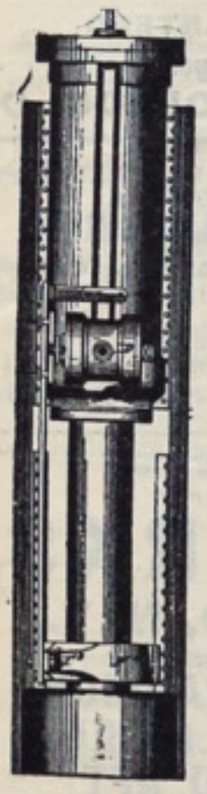

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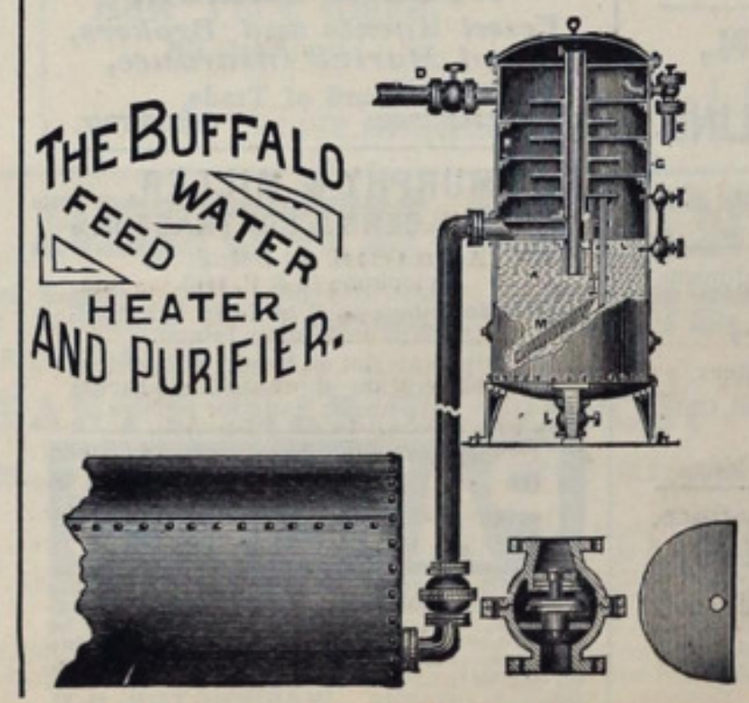

REFERENCES.

A.—Settling chamber.
B.—Boiler.
C.—Feed pipe to boiler.
D.—Steam pipe.
E.—Water supply pipe.
F.—Check valve.
G.—Spray disks.
H.—Spray chamber.
I.—Equalizing tube.
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K.—Automatic shut-off valve.
L.—Division plate.
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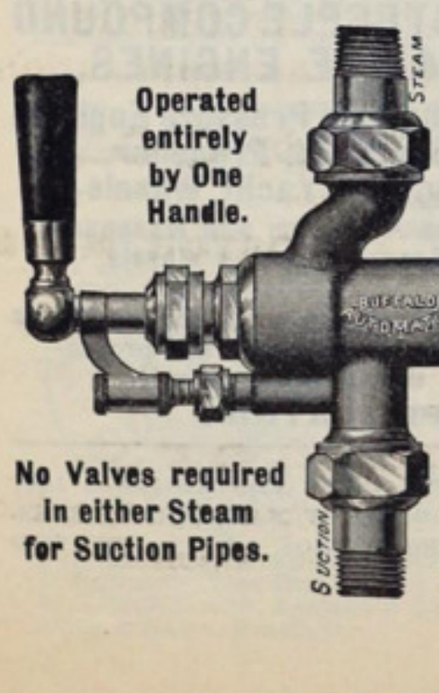

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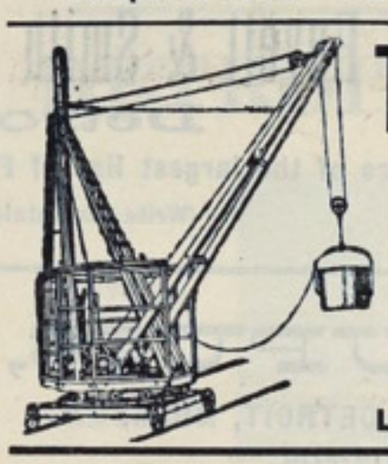

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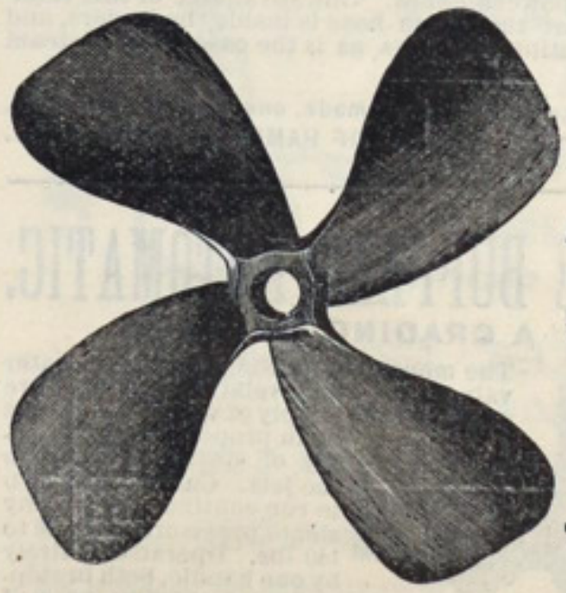

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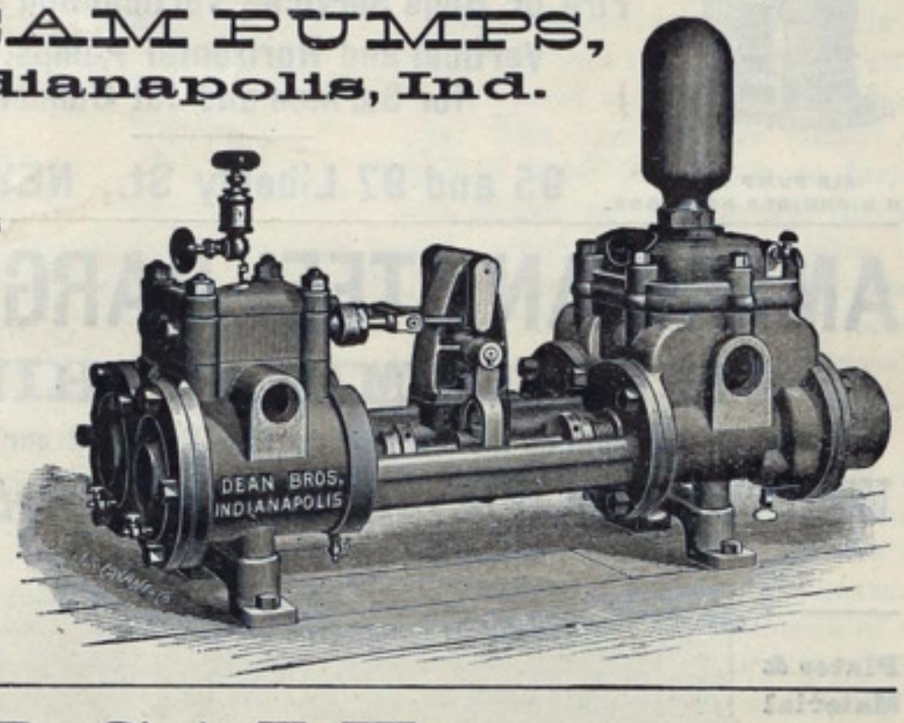

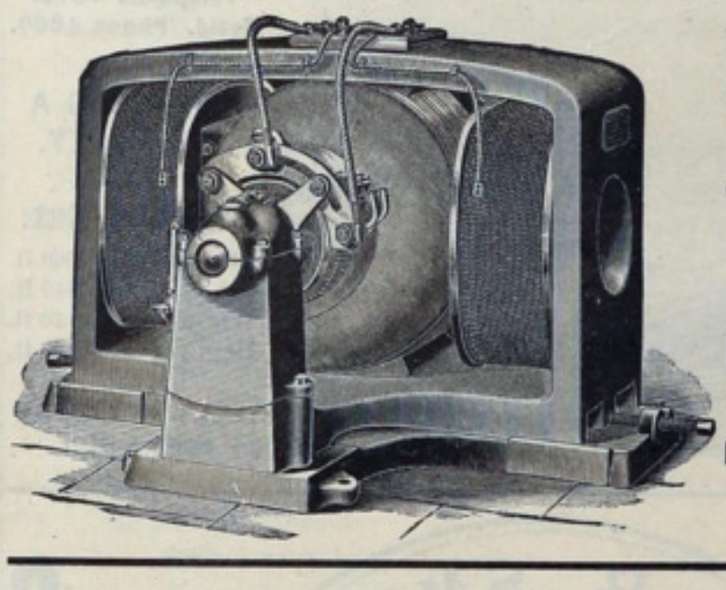

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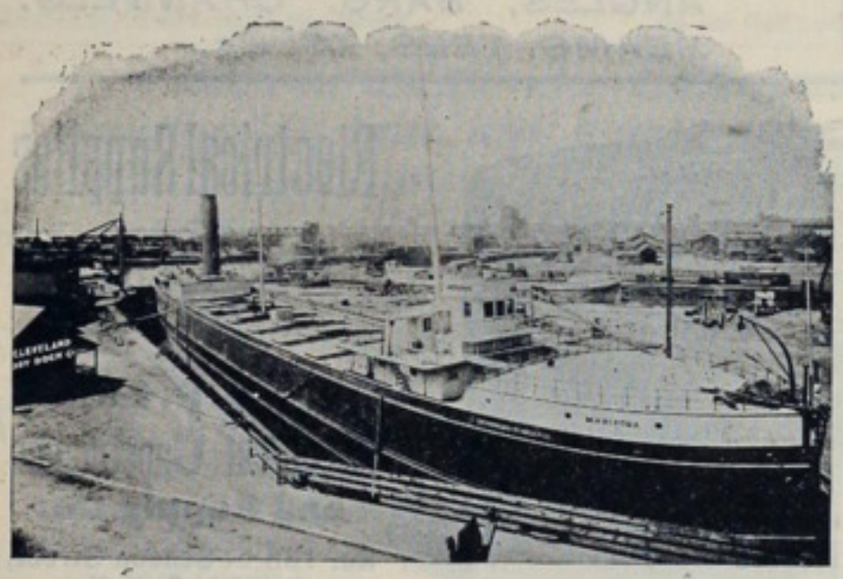

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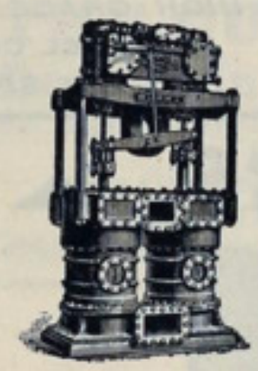

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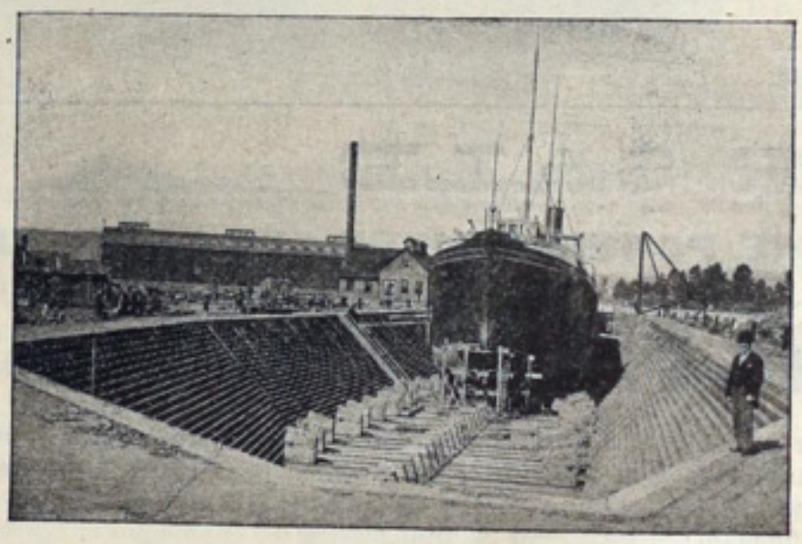

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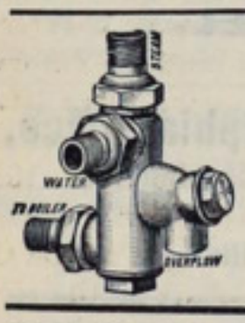

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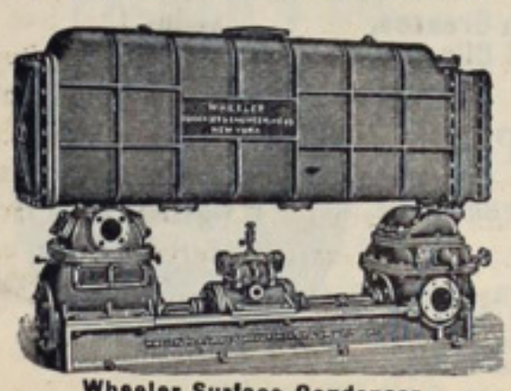

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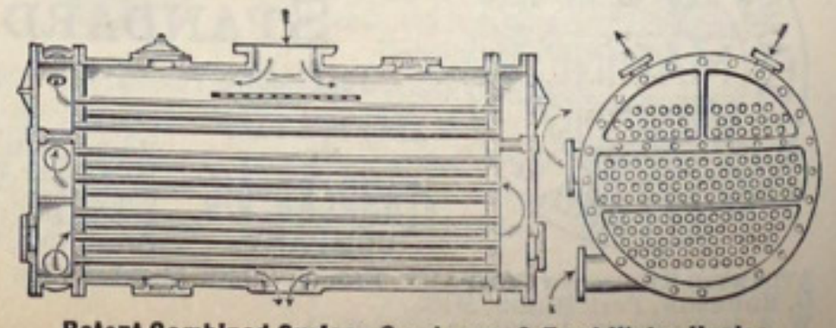

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